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| | 7590 10/15/2007 CHNOLOGIES, INC. | • | EXAM | INÉR |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | Application No. | Applicant(s) | | | |
|--|--|---|--|--|--|--|
| Office Action Summary | | 10/751,723 | MONK, JOHN M. | | | |
| | | Examiner | Art Unit | | | |
| | | Jeffrey M. Rutkowski | 2619 | | | |
| The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply | | | | | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status | | | | | | |
| | Pasnonsive to communication(s) filed on 26 Sc | entember 2007 | · · | | | |
| · | Responsive to communication(s) filed on <u>26 September 2007</u> . This action is FINAL . 2b) This action is non-final. | | | | | |
| | Since this application is in condition for allowance except for formal matters, prosecution as to the merits is | | | | | |
| | closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | | | | |
| Dispositi | ion of Claims | | | | | |
| 5)□ 6)⊠ 7)□ | Claim(s) 1-24 is/are pending in the application. 4a) Of the above claim(s) is/are withdraw Claim(s) is/are allowed. Claim(s) 1-24 is/are rejected. Claim(s) is/are objected to. Claim(s) are subject to restriction and/o | wn from consideration. | | | | |
| Application Papers | | | | | | |
| 10)⊠ | The specification is objected to by the Examine The drawing(s) filed on <u>05 January 2004</u> is/are. Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Ex | : a)⊠ accepted or b)□ objected drawing(s) be held in abeyance. Sec tion is required if the drawing(s) is ob | e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d). | | | |
| Priority (| under 35 U.S.C. § 119 | | | | | |
| 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. | | | | | | |
| 2) Notice 3) Infor | ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO/SB/08) er No(s)/Mail Date | 4) Interview Summary Paper No(s)/Mail Di 5) Notice of Informal F 6) Other: | ate | | | |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: paper being classified as a Computer Readable Medium (CRM) [0050] is objected to since the computer is not actually reading the paper. After the paper is scanned, the computer is actually reading a digital representation of the paper and not the paper itself.

Appropriate correction is required.

Claim Objections

2. Claims 3-7, 9, 10, 12, 13, 18 and 19 are objected to because of the following informalities: the acronyms ART, CHAID, XML, HTTP and IP are not defined. The claims should define the meaning of the acronym. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The CRM as disclosed in the specification includes recording the information on a signal carrier (The computer readable medium can be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium).

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Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 5. Claims 1, 2, 11, 17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bahadiroglu (US Pg Pub 2002/0186660).
- 6. For claim 1, Bahadiroglu teaches an adaptive packet mechanism and method for optimizing data packet transmission through a network connection between a sending node and a receiving node [abstract]. Bahadiroglu teaches a single node can be a sending node, a receiving node, or perform both operations [0107]. Bahadiroglu teaches a sending module 12S coupled to a receiving module 12R [0108 and figure 6A] (a host analyzer communicatively coupled to a first client analyzer). Bahadiroglu teaches a Network Analyzer 48 may implemented as neural network [0109] (wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer).
- 7. For claim 2, Bahadiroglu discloses everything in claim 1. Bahadiroglu teaches a Packet Transfer Engine (PTE) is used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) [0078 and figure 6A] (a data collection element that receives the raw digital data from the first client analyzer). The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet

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interval for the current network conditions [0078] (a data selection element that generates a selected data set from the raw digital data; a data processing element that processes the selected data set to generate a normalized data set). Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a preliminary mode to train a neural network to be used in a network analyzer 48 [0112] (wherein the neural processing module that processes the normalized data set to generate a set of rules and relationships). Bahadiroglu anticipates the use of a data mining module by disclosing a Result Database 40 used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries 40E [0135 and figure 6A] (a data mining module that uses the set of rules and relationships to generate a mined data set from the selected data set, wherein the mined data set is used to characterize the packet-network-under-test).

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8. For claim 11, Bahadiroglu teaches a Packet Transfer Engine (PTE) is used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) [0078 and figure 6A] (receiving raw digital data that is derived from a packet-network-under-test). The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet interval for the current network conditions [0078] (generating a selected data set from the received raw digital data generating a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a preliminary mode to train a neural network to be used in a network analyzer 48 [0112] (processing the normalized data set in a neural network to generate a set of rules and relationships). Bahadiroglu teaches the use of a data mining module by disclosing a Result

Database 40 used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries 40E [0135 and figure 6A] (using the set of rules and relationships for mining the selected data set to generate a mined data set; and using the mined data set to characterize the packet-network-under-test).

9. For claim 17, Bahadiroglu teaches a Packet Transfer Engines (PTE) are used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) [0078] and figure 6A] (logic configured to receive raw digital data that is derived from a packetnetwork-under-test). The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet interval for the current network conditions [0078] (logic configured to generate a selected data set from raw digital data of the packet-network-under-test; logic configured to generate a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a preliminary mode to train a neural network to be used in a network analyzer 48 [0112] (logic configured to process the normalized data set in a neural network to generate a set of rules and relationships). Bahadiroglu anticipates the use of a data mining module by disclosing a Result Database 40 used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries 40E [0135 and figure 6A] (logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set; and logic configured to use the mined data set to characterize the packet-network-under-test).

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10. For claim 21, Bahadiroglu teaches a Packet Transfer Engines (PTE) are used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) [0078] and figure 6A] (means for receiving raw digital data that is derived from a packet-networkunder-test). The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet interval for the current network conditions [0078] (means for generating a selected data set from raw digital data of the packetnetwork-under-test; means for generating a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a preliminary mode to train a neural network to be used in a network analyzer 48 [0112] (means for processing the normalized data set using a neural network to generate a set of rules and relationships). Bahadiroglu teaches the use of a data mining module by disclosing a Result Database 40 used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries 40E [0135 and figure 6A] (means for using the set of rules and relationships for mining the selected data set to generate a mined data set; and means for using the mined data set to characterize the packet-network-under-test).

Claim Rejections - 35 USC § 103

- 11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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12. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness.
- 13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to claim 2 above, and further in view of Anstey et al. (US Pat 6,639,900).
- 14. The teachings of Bahadiroglu from claim 1, disclose a neural network. Bahadiroglu does not teach the use of a specific neural classifier. Anstey teaches the Adaptive Resonance Theory (ART) limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural network [abstract].
- 15. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention to develop stable clusterings of arbitrary sequences of input patterns by self-organization.
- 16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Anstey as applied to claim 3 above, and further in view of Schmidt (US PgPub 2002/0049720).
- 17. The combination of Bahadiroglu and Anstey does not teach the use of an Chi Squared Automatic Interaction Detection (CHAID) scheme. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu and Anstey by disclosing common data mining methods

include the use of CHAID algorithms [0006] (wherein the neural processing module further comprises a rules and relationship extraction module that uses a modified CHAID scheme).

- 18. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focus of pattern extraction to obtain significant results.
- 19. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to claim 2 above, and further in view of Anstey and Schmidt.
- 20. Bahadiroglu does not teach ART or CHAID algorithms are used in the network analyzer
- 48. Anstey teaches the ART limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural network. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu by disclosing common data mining methods include the use of CHAID algorithms [0006] (wherein the neural processing module processes the normalized data set using ART, and the set of rules and relationships is generated by the neural processing module using a modified CHAID scheme).
- It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention for classifying network nodes. It also would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focal point.
- 22. Claims 6-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Anstey and Schmidt as applied to claim 5 above, and further in view of Adhikari et al. (US PgPub 2004/0252646).

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Adaptive Packet Mechanism [0117]. Bahadiroglu does not teach the use of Extensible Markup Language (XML). Adhikari teaches the XML limitation absent from the teachings of Bahadiroglu by disclosing XML can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation [0094] (wherein the first client analyzer

For claim 6, Bahadiroglu teaches a script file is used to control the operations of an

uses XML to transport the raw digital data of the packet-network-under-test to the data collection

element).

24. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML in Bahadiroglu's invention to script out a program that makes network testing easier.

- 25. For claim 7, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in claim 6. Bahadiroglu further teaches the PTE operates as a data communications protocol stack mechanisms, namely the Transmission Control Protocol / Internet Protocol (TCP/IP) stack [0081] (wherein the packet-network- under-test is an IP network).
- 26. For claim 8, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in claim 6. Bahadiroglu further teaches the network connections can be two devices connected through the Internet [0069] (wherein the packet-network- under-test is a subnet of the Internet).
- 27. For claim 10, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in claim 6. Bahadiroglu further teaches the designation of a sending node and receiving node are for illustrative purposes only. A router, for example, could perform both transmit and receive functions. The router could receive packets from one node and transfer the

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packets onto another node [0074 and figure 2]. Adhikari further teaches the monitoring and analysis system can be configured to support a web-based (HTTP) interface [abstract].

Adhikari further teaches XML scripts can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation [0094] (wherein the host analyzer is communicatively coupled to a second client analyzer that is communicatively coupled via a packet network to a third client analyzer, and wherein the third client analyzer uses XML over HTTP to transmit raw digital data to the second client analyzer for characterizing a second packet-network-under-test that is connected to the third client analyzer).

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- 28. Claims 9, 12, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to claims 2, 11 and 17 respectively above, and further in view of Adhikari.
- 29. For claim 9, Bahadiroglu teaches everything in claim 2. Bahadiroglu teaches a node 12 can be comprised of a computer, network server (HTTP server), or router [0073]. Bahadiroglu does not teach the use of XML. Adhikari teaches the XML limitation absent from the teachings of Bahadiroglu by disclosing XML can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation [0094] (wherein the data collection element of the host analyzer comprises a HTTP server using XML to communicatively couple the host analyzer via a packet network to the first client analyzer, and wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the host analyzer; claim 22: wherein the means for receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol).

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30. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML in Bahadiroglu's invention to script out a program that makes network testing easier.

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- 31. For claims 12, 18 and 22, Bahadiroglu teaches everything in claims 11 and 17 respectively. Bahadiroglu does not teach the use of XML over HTTP as a transmission protocol. Adhikari teaches the XML over HTTP limitation absent from the teachings of Bahadiroglu by disclosing the monitoring and analysis system can be configured to support a web-based (HTTP) interface [abstract] and XML scripts can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation [0094] (claim 12: wherein the step of receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol; claim 18: wherein the logic configured to receive raw digital data incorporates the use of XML over HTTP as a transmission protocol).
- 32. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML over HTTP in Bahadiroglu's invention to provide web services for the analyzed environment.
- 33. Claims 13-16, 19-20 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Adhikari as applied to claims 12 and 18 respectively above, and further in view of Anstey and Schmidt.
- 34. For claims 13, 19 and 23, the combination of Bahadiroglu and Adhikari teach everything in claims 12 and 18 respectively. The combination of Bahadiroglu and Adhikari do not teach the use of ART or CHAID algorithms. Anstey teaches the ART limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural

network. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu by disclosing common data mining methods include the use of CHAID algorithms [0006] (claim 13: the normalized data set is generated using ART, and the set of rules and relationships is generated using a modified CHAID scheme; claim 19: wherein the logic configured to generate the normalized data set uses ART, and the logic configured to process the normalized data set in the neural network uses a modified CHAID scheme; claim 23: wherein the means for generating the normalized data set uses ART, and the means for processing the normalized data set using the neural network uses a modified CHAID scheme).

- 35. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention for classifying network nodes. It also would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focal point.
- 36. For claim 14, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in claim 13. Bahadiroglu further teaches network conditions of the current connection are extracted (i.e. available bandwidth, jitter and latency) [0078 and figure 6A] (wherein characterizing the packet-network-under-test comprises generating a performance metric of transmission of data packets through the packet-network-under-test).
- 37. For claim 15, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in claim 14. Bahadiroglu further teaches the PTE operates as a data communications protocol stack mechanisms, namely the Transmission Control Protocol / Internet Protocol (TCP/IP) stack [0079] (wherein the packet-network-under-test is an IP network).

38. For claims 16, 20 and 24, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in claims 14 and 19 respectively. Bahadiroglu further teaches the network connections can be two devices connected through the Internet [0069] (claim 16: wherein the packet-network-under-test is a subnet of the Internet; claim 20: wherein the logic configured to receive raw digital data incorporates logic to interface to the Internet; claim 24: wherein the means for receiving raw digital data incorporates means to interface to the Internet).

Response to Arguments

Argument for claims 17-24, rejected under 35 USC § 101:

Applicant is specifically claiming a computer readable medium storing the computer executable code

Response:

The specification points out the computer readable includes, but limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium. It is well known in the art that the propagation medium also includes intangible subject matter, such as signals.

Arguments for claims 1, 2, 11, 17 and 21, rejected under 35 USC § 102:

Argument for claim 1:

Bahadiroglu's neural network does not process "raw digital data."

Response:

There is no structural difference between Bahadiroglu's system and the system of the present invention. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Arguments for claims 2, 11, 17 and 21:

Bahadiroglu's invention does not generate a normalized data set.

Merely "storing" information in a database does not satisfy using rules and relationships to generate a mined data set.

Response:

Bahadiroglu teaches the Collector/Controller determines an optimum packet size and inter-packet interval for current network conditions [see claim 2]. The optimum packet size is scaled (normalized) according to the current network conditions.

For claims 2, 11, 17 and 21, Bahadiroglu's Result Database is used for storage and information retrieval (subsequent use). Also, the information stored in the database in is in a particular format (test result entries are placed in a network condition record) [0135]. Since the information is stored in the database for future use and maintained in a particular format, allowing rules and relationships to be used to retrieve information from the database Bahadiroglu anticipates the use of data mining techniques.

Arguments for claims 3-10, 12-16, 18-20, and 22-24 rejected under 35 U.S.C. § 103(a):

Argument:

The Current Action Fails to Provide Factual Support Showing that the Proposed Combinations Have a Reasonable Expectation of Success

Response:

Since all of the prior art in the rejection comes from the same field of endeavor and uses known elements, the expectation of success is substantially high.

39. Applicant's arguments filed 09/26/2007 have been fully considered but they are not persuasive, for the reasons stated above.

Conclusion

40. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski Patent Examiner 10/04/2007

JMR

SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2600